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AMENDMENTS TO CLAIMS

1. (Previously presented) A magnetic memory cell comprising first and second magneto-resistive devices connected in series, the first magneto-resistive device having a first sense layer, the second magneto-resistive device having a second sense layer, the first and second sense layers having different coercivities and at least one of having different sizes and different material compositions.

2. (Original) The memory cell of claim 1, wherein the first and second devices are magnetic tunnel junctions.

3. (Previously presented) The memory cell of claim 5, wherein the first magnetic tunnel junction includes the first sense layer and a first pinned layer; and wherein the second magnetic tunnel junction includes the second sense layer and a second pinned layer.

4. (Previously presented) The memory cell of claim 5, wherein the sense layers of the first and second devices are back to back; and wherein the sense layers are separated by a layer of non-magnetic material.

5. (Previously presented) A magnetic memory cell comprising first and second magnetic tunnel junctions connected in series, the first magnetic tunnel junction having a first sense layer, the second magnetic tunnel junction having a second sense layer, the first and second sense layers having different coercivities, the first and second magnetic tunnel junctions sharing a pinned layer.

6. (Previously presented) The memory cell of claim 5, wherein hysteresis

PAGE 3/5 * RCVD AT 11/17/2004 12:15:59 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729319 * CSID:949 454 0898 * DURATION (mm:ss):01:40

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7. (Original) The memory cell of claim 1, wherein the sense layers in the first and second devices have different shapes.

8. (Original) The memory cell of claim 1, wherein the sense layers in the first and second devices have different sizes.

9. (Original) The memory cell of claim 1, wherein the sense layers of the first and second devices have different shapes and sizes.

10. (Original) The memory cell of claim 1, wherein the sense layers of the first and second devices have different thicknesses.

11. (Original) The memory cell of claim 1, wherein the sense layers of the first and second devices are made of different materials.

12. (Original) The memory device of claim 1, wherein the first and second devices have distinguishably different delta resistances, whereby the memory cell has at least four distinguishable logic states.

Claims 13-25 (Cancelled).